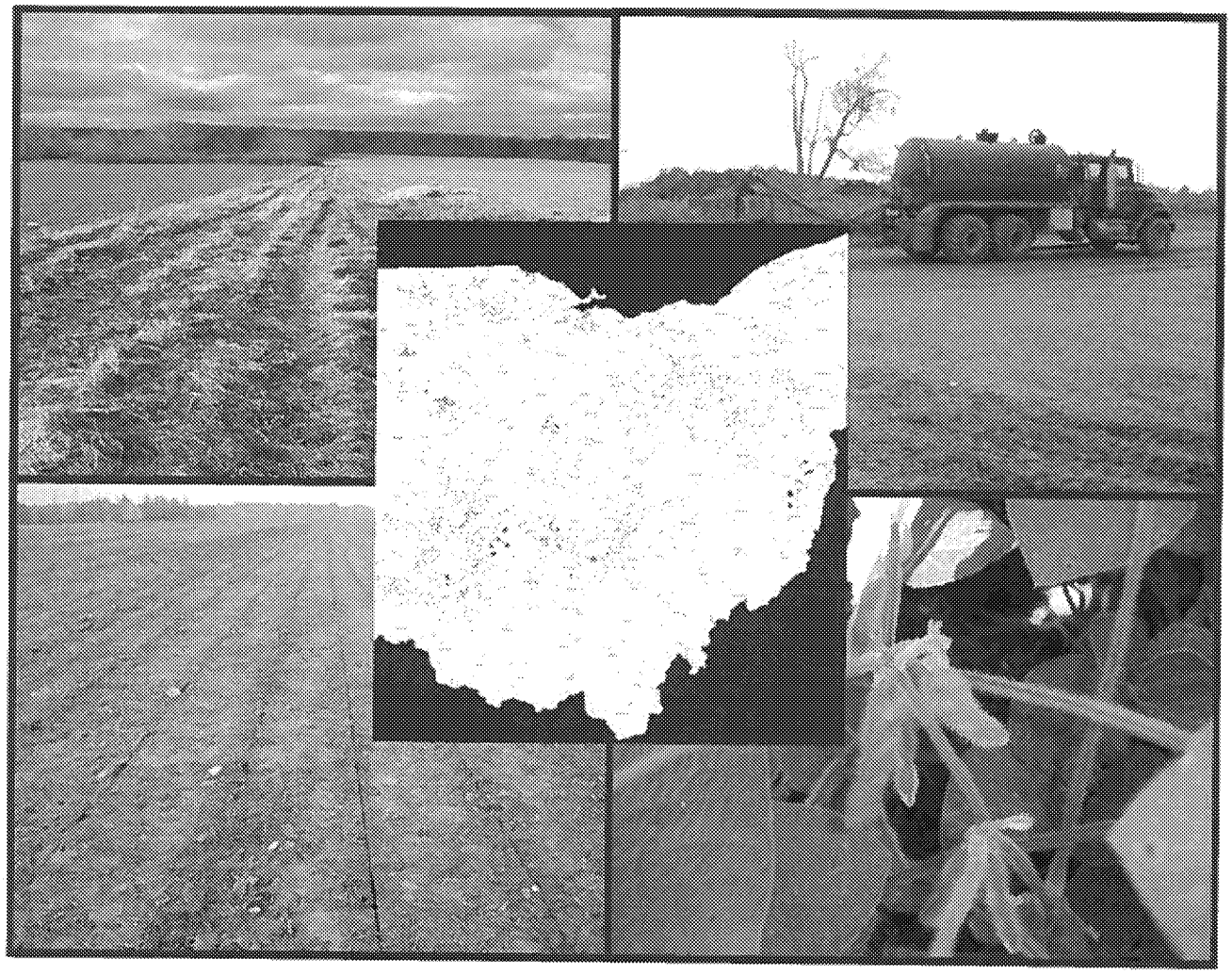
Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Division of Surface Water

Application for Authorization: Class B Biosolids Beneficial Use Sites



Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Emerald BioEnergy		
Ohio NPDES permit #: 4IN00204*AD		County: Morrow
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Operator of record: Taylor Faecher		
Telephone number: (419) 253-5300		
Email address: tfaecher@renergy.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.

3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.

4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.

Signature

2 / 12 / 18
Date

This form shall be signed by the operator of record for the treatment works, be an original signature, not a copy, and must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

Lerenbergen wheat field[1]

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Owner Consent for Beneficial Use

Exemption 6

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.

2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.

3. I certify that I am holder of legal title to the property described on application form BUA-5, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

Exemption 6

8 / 2 / 18
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site.

[2] In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Beneficial Use Site Operator Consent for Beneficial Use

Exemption 6

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Exemption 6

2 / 18 / 18
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site.

[2] In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial User Information

Beneficial user[1]: Emerald BioEnergy		
Contact person: Taylor Faecher		
Mailing address: 461 State Route 61		
City: Marengo	State: OH	Zip: 43334
Telephone number: (419) 253-5300		
Email address: tfaecher@renergy.com		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Signature[2] _____ Date 2/12/18

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

[1] For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

[2] In the event the beneficial user of the beneficial use site changes, Form BUA-4 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: DES-05-03

Beneficial use site location: Corner of Township Rd 224 and 245

County: Delaware | **Township**: Oxford

Latitude: 40.39258 | **Longitude**: -82.9383

Total acreage proposed for beneficial use: 47.7

Type of beneficial use to be performed:

Surface application ☐
Injection or immediate incorporation ■

Ground slope percent:

Less than 15%	■	15% to 19.9%	☐
Greater than 20%	☐		

Soil pH (s.u): 5.5

Soil phosphorus (mg/kg): ___29_____

Bray Kurtz P1 ☐
Mehlich 3 ■

Bedrock depth (feet):

Type of crops to be grown:

Crop Type	Expected Yield
Corn	150
Soybeans	50
Wheat	
Pasture	
Hay	
Other:	

Soil Types:

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group	Flooding Frequency Class
BIg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	None
BIg1B1	Blout silt loam, ground moraine, 2 to 4 percent slopes	D	None
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	B	None
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	D	None
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	D	None
LyD2	Lybrand silt loam, 12 to 18 percent slopes, eroded	C	None
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	C / D	None
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	B / D	Occasional

Applicable isolation distances:

Type of Isolation Distance			
Surface waters of the state	■	Sinkhole/UIC class V drainage	☐
Occupied building	■	Private potable water source	☐
Medical care facility	☐		

Are any endangered species or endangered species habitats located on the beneficial use site?

☐ Yes	■ No

If "Yes" is marked, list the types of endangered species or endangered species habitat:

Have biosolids been beneficially used on the site since July 20, 1993?

☐ Yes	■ No

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

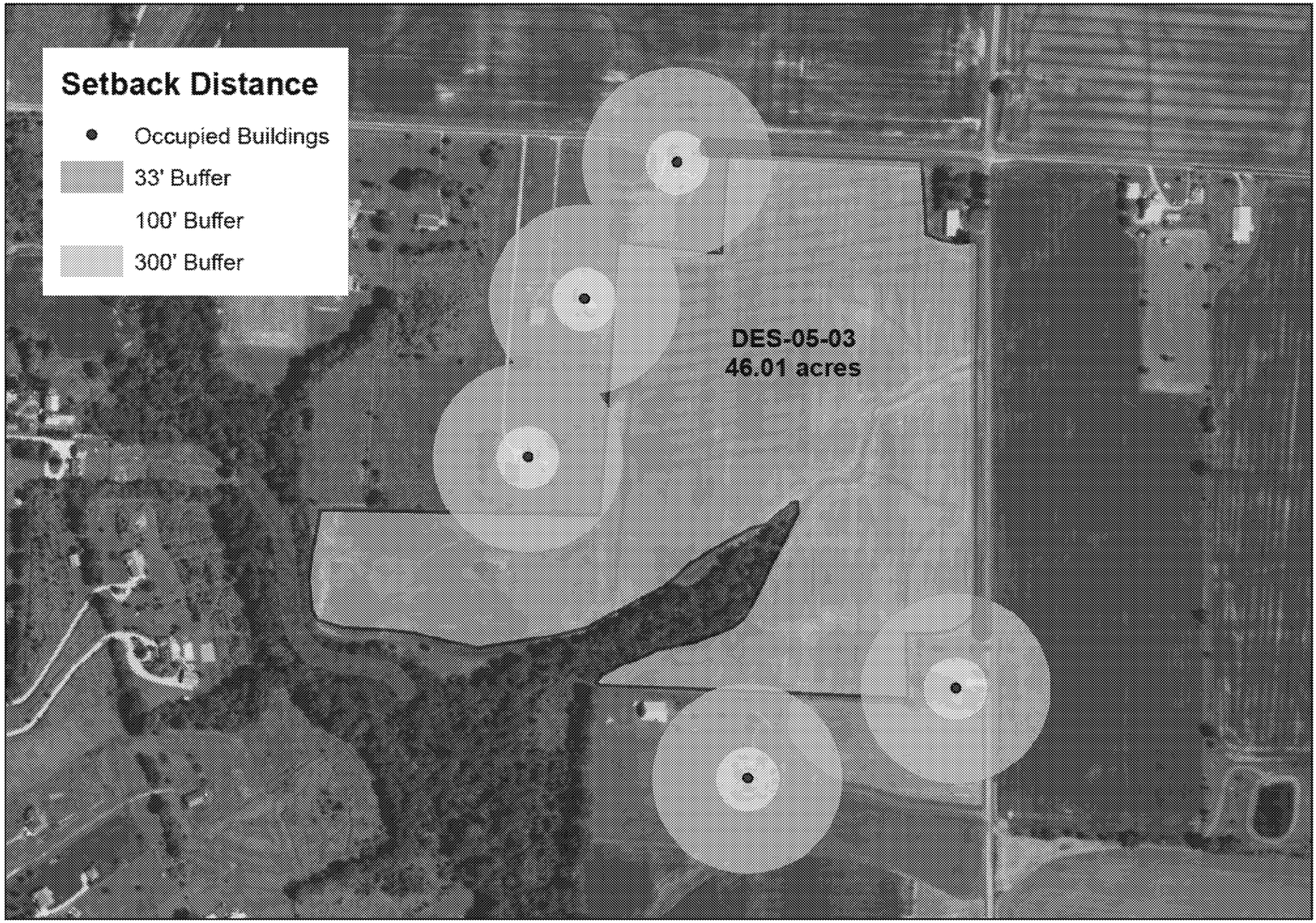
Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following:

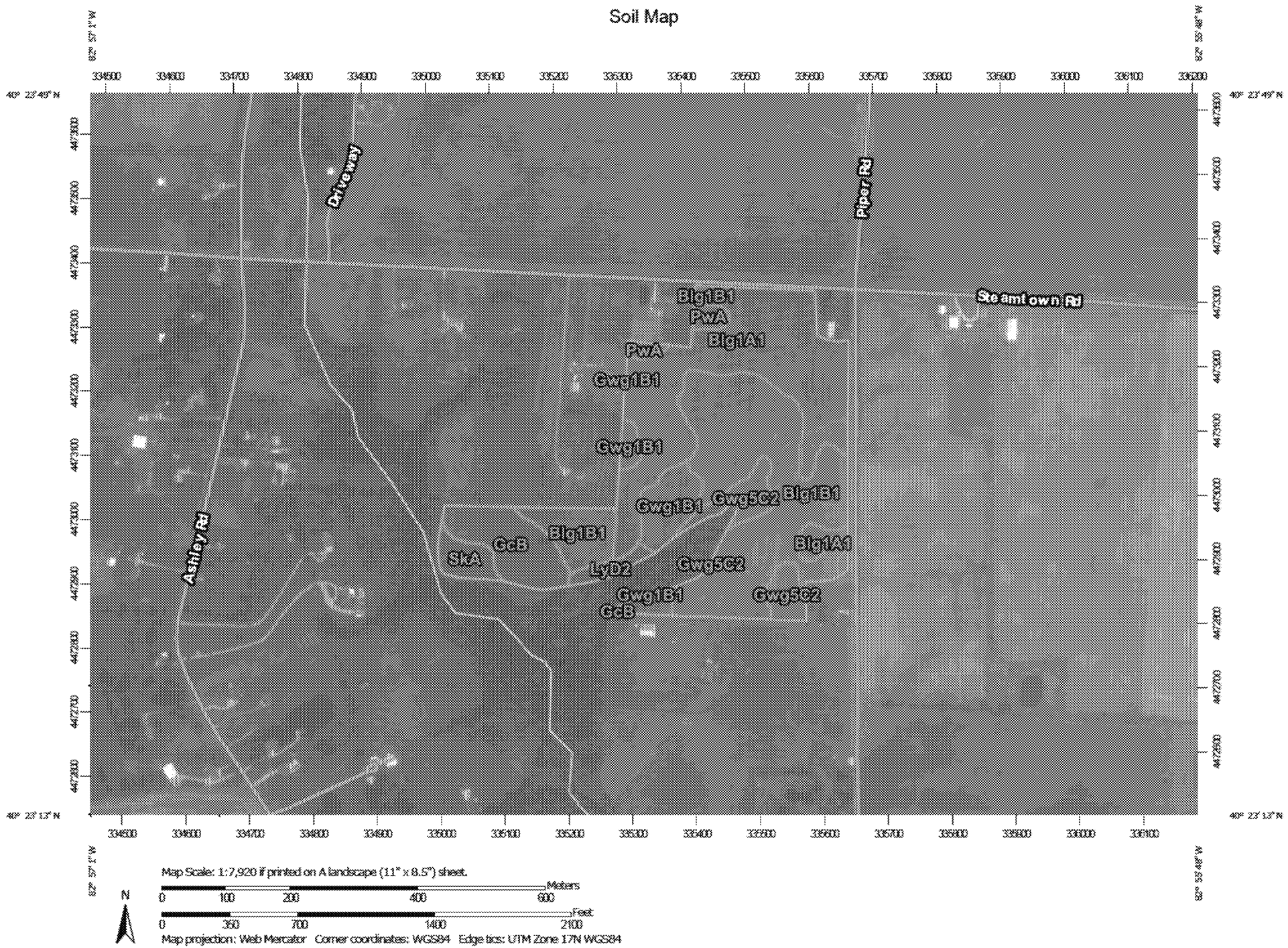
- ☐ A soil map of the proposed beneficial use site;
- ☐ A frequency flood class map of the proposed beneficial use site;
- ☐ An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code;
- ☐ A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled; and
- ☐ A copy of the most recent soil test results identified in this form.


DES-01-04
DES-01-02
DES-01-03
DES-05-02 Randy Leiend
Randy Leienbergerhome
224
224
243
245
DES-05-03 Leienberger
DES-05-01 Randy Leiend...
Cherries Lyn
Need to check Permits
Firehole Canyon
Campground
251
251
243
245

DES-05-03 Setback Distance



Setback Distance		
DES-05-03		
Total Area: 46.01 acres		
Setbacks:		
	Residence - 300' Buffer	5.16 acres
	Residence - 100' Buffer	0.004 acres
	Surface Waters - 33' Buffer	0.75 acres
	Total Setback Area:	5.914 acres


Soil Map
82° 57' 1" W
82° 55' 48" W
40° 23' 49" N
40° 23' 13" N
334500
334600
334700
334800
334900
335000
335100
335200
335300
335400
335500
335600
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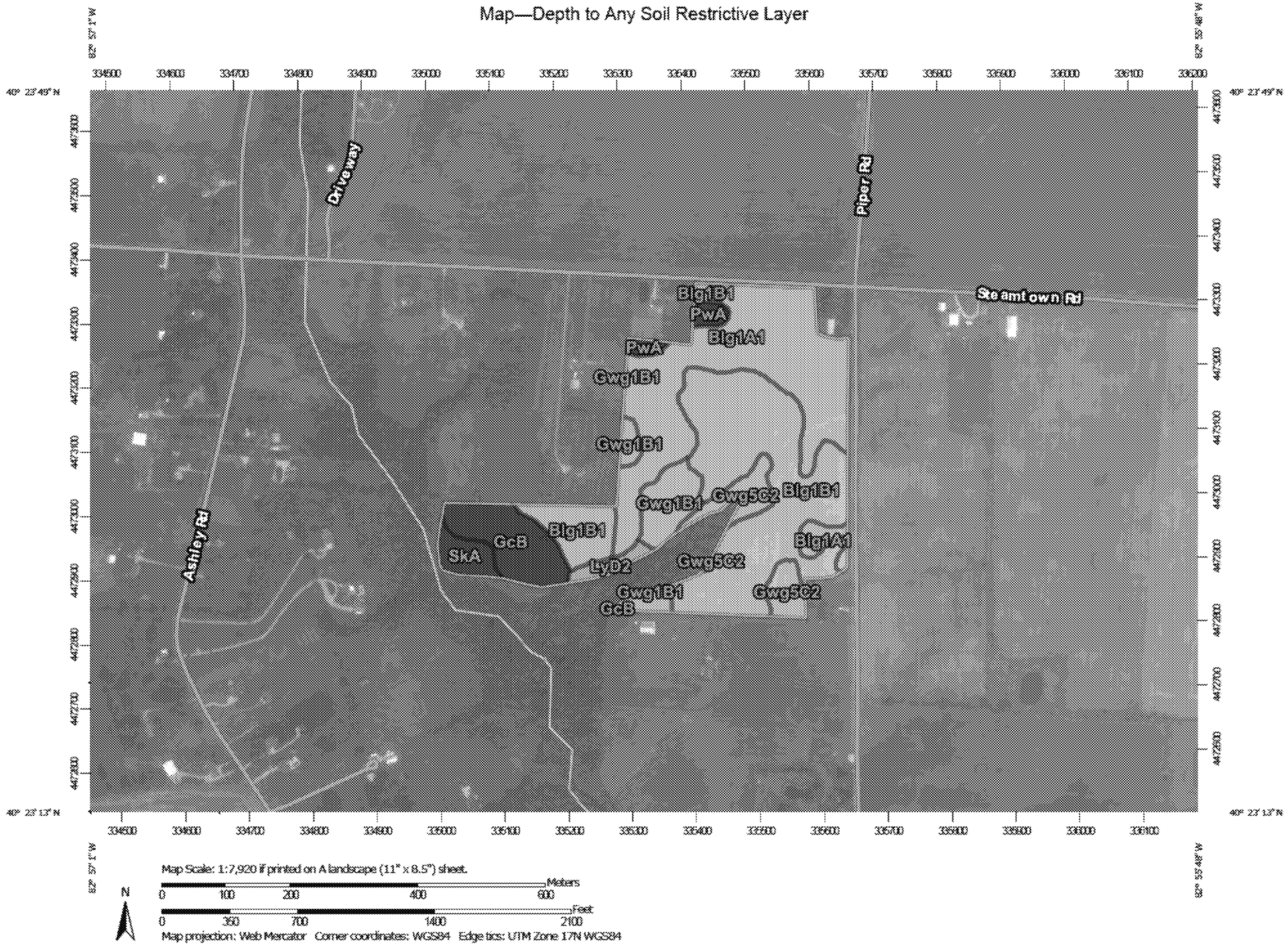
336200
4473800
4473700
4473600
4473500
4473400
4473300
4473200
4473100
4473000
4472900
4472800
4472700
4472600
Drive Way
Piper Rd
Steamtown Rd
Ashley Rd
BlgA1
PwA
BlgA1
PwA
GwgB1
GwgB1
GwgB1
GwgB2
BlgB1
BlgB1
BlgA1
GcB
StA
LyD2
GwgB2
GwgB1
GwgB2
GcB
Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0
100
200
400
600
Feet
0
350
700
1400
2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	15.4	33.5%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	18.1	39.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	3.8	8.2%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	3.3	7.2%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	2.6	5.7%
LyD2	Lybrand silt loam, 12 to 18 percent slopes, eroded	0.7	1.6%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	0.8	1.8%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	1.3	2.8%
Totals for Area of Interest		**46.0**	**100.0%**


Map—Depth to Any Soil Restrictive Layer
82° 57' 1" W
82° 55' 48" W
40° 23' 49" N
40° 23' 13" N
334500
334600
334700
334800
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4473700
4473600
4473500
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4473200
4473100
4473000
4472900
4472800
4472700
4472600
4472500
Driveway
Piper Rd
Steamtown Rd
Ashley Rd
BlgIB1
PwA
BlgIA1
PwA
GxgIB1
GxgIB1
GxgIB1
GxgSc2
BlgIB1
BlgIB1
GcB
StA
LyD2
GxgSc2
BlgIA1
GxgIB1
GxgSc2
GcB
Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.
N
Meters
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400
600
Feet
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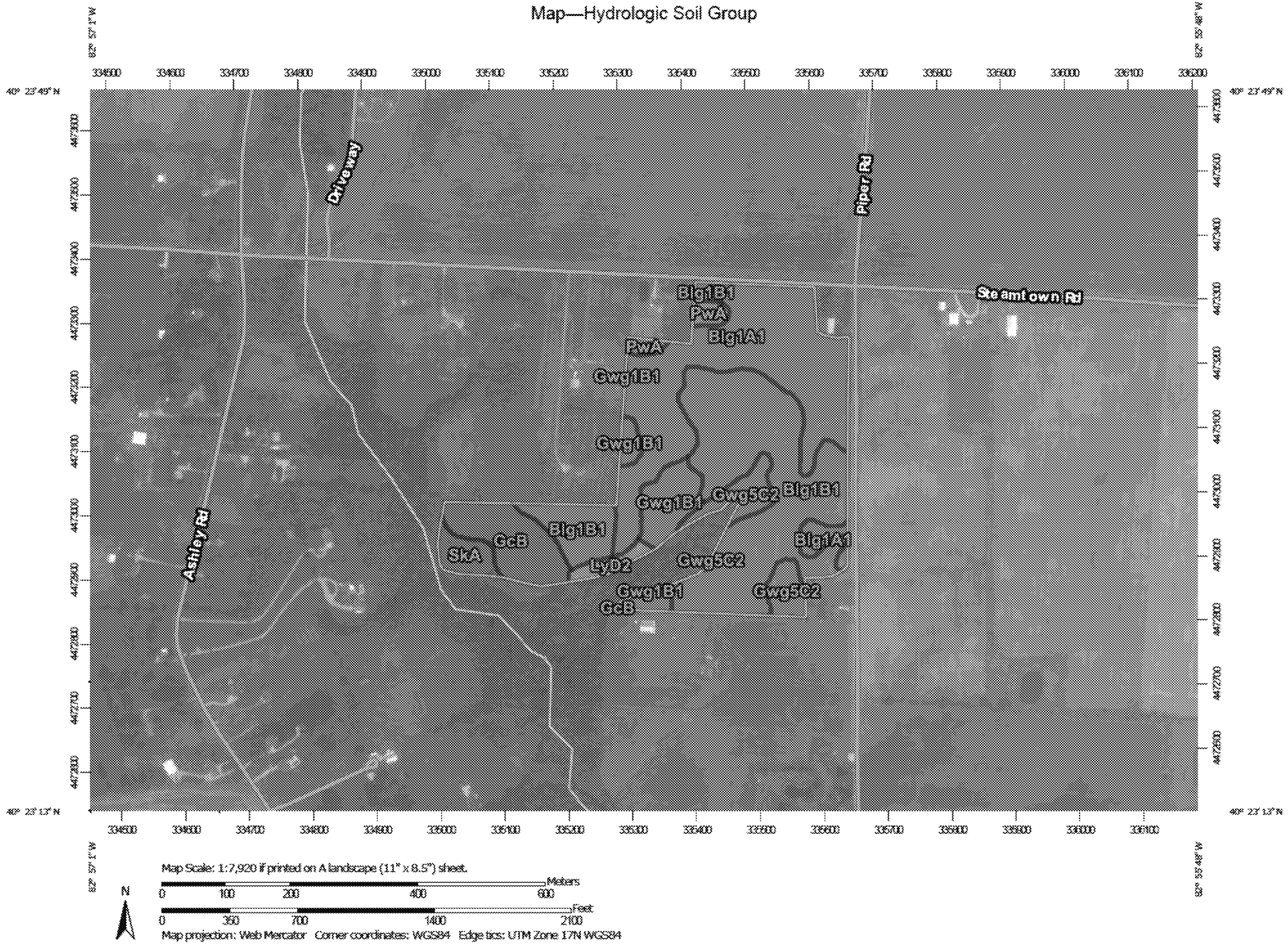
1400
2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Depth to Any Soil Restrictive Layer

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	99	15.4	33.5%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	94	18.1	39.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	>200	3.8	8.2%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	86	3.3	7.2%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	74	2.6	5.7%
LyD2	Lybrand silt loam, 12 to 18 percent slopes, eroded	114	0.7	1.6%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	>200	0.8	1.8%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	>200	1.3	2.8%
Totals for Area of Interest			**46.0**	**100.0%**


Map—Hydrologic Soil Group
82° 57' 1" W
82° 55' 48" W
40° 23' 49" N
40° 23' 13" N
334500
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334700
334800
334900
335000
335100
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4473800
4473700
4473600
4473500
4473400
4473300
4473200
4473100
4473000
4472900
4472800
4472700
4472600
4472500
Driveway
Piper Rd
Steamtown Rd
Ashley Rd
BlgA1
BlgB1
CcB
CrB
CwgB1
CwgC2
EyD2
PwA
SfA
Map Scale: 1:7,920 if printed on A landscape (11" x 8.5") sheet.
Meters
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100
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400
600
Feet
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350
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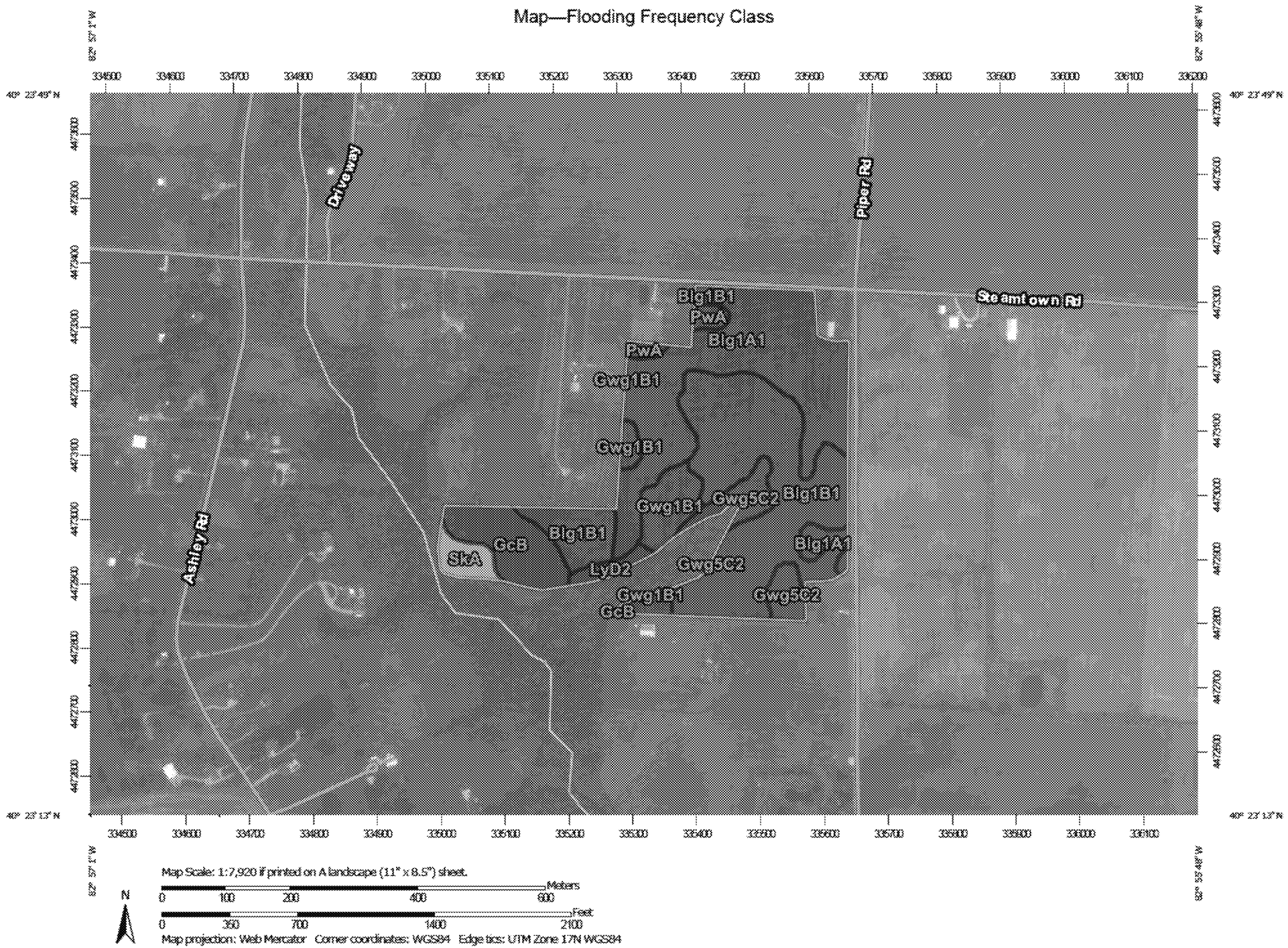
1400
2100
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	15.4	33.5%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	D	18.1	39.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	B	3.8	8.2%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	D	3.3	7.2%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	D	2.6	5.7%
LyD2	Lybrand silt loam, 12 to 18 percent slopes, eroded	C	0.7	1.6%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	C/D	0.8	1.8%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	B/D	1.3	2.8%
Totals for Area of Interest			**46.0**	**100.0%**

Map—Flooding Frequency Class



Table—Flooding Frequency Class

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	None	15.4	33.5%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	None	18.1	39.3%
GcB	Gallman silt loam, till substratum, 2 to 6 percent slopes	None	3.8	8.2%
Gwg1B1	Glynwood silt loam, ground moraine, 2 to 6 percent slopes	None	3.3	7.2%
Gwg5C2	Glynwood clay loam, ground moraine, 6 to 12 percent slopes, eroded	None	2.6	5.7%
LyD2	Lybrand silt loam, 12 to 18 percent slopes, eroded	None	0.7	1.6%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	None	0.8	1.8%
SkA	Sloan silt loam, 0 to 2 percent slopes, occasionally flooded	Occasional	1.3	2.8%
Totals for Area of Interest			**46.0**	**100.0%**

lb/A

BROOKSIDE LABORATORIES, INC.

58251-25

SOIL AUDIT AND INVENTORY REPORT

Name Renergy, Inc. City _____ State _____

Independent Consultant Brookside Consultants of Ohio, Inc. Date 3/5/2018

Sample Location [redacted] 50			1	2	3		
Sample Identification							
Lab Number			0191-1	0192-1	0193-1		
Total Exchange Capacity (ME/100 g)			9.36	9.64	9.82		
pH (H_2O 1:1)			5.6	5.1	5.8		
Organic Matter (360°C LOI) %			2.72	3.43	2.72		
Estimated Nitrogen Release		lb/A	74	84	74		
ANIONS	SOLUBLE SULFUR*	ppm	10	10	8		
ANIONS / PHOSPHORUS	MEHLICH III	lb/A P as P_2O_5	188	82	128		
		ppm of P	41	18	28		
	BRAY II	lb/A P as P_2O_5					
		ppm of P					
	OLSEN	lb/A P as P_2O_5					
		ppm of P					
EXCHANGEABLE CATIONS	CALCIUM*	lb/A	1806	1436	2158		
		ppm	903	718	1079		
	MAGNESIUM*	lb/A	330	234	334		
		ppm	165	117	167		
	POTASSIUM*	lb/A	212	214	258		
		ppm	106	107	129		
	SODIUM*	lb/A	42	26	32		
		ppm	21	13	16		
BASE SATURATION PERCENT							
	Calcium	%	48.24	37.24	54.94		
	Magnesium	%	14.69	10.11	14.17		
	Potassium	%	2.90	2.85	3.37		
	Sodium	%	0.98	0.59	0.71		
	Other Bases	%	6.20	7.20	5.80		
	Hydrogen	%	27.00	42.00	21.00		
EXTRACTABLE MINORS							
	Boron* (ppm)		0.64	0.78	0.45		
	Iron* (ppm)		159	193	184		
	Manganese* (ppm)		84	84	84		
	Copper* (ppm)		1.18	1.85	1.49		
	Zinc* (ppm)		3.18	1.35	1.96		
	Aluminum* (ppm)		739	1053	733		
OTHER TESTS	Soluble Salts (mmhos/cm)						
	Chlorides (ppm)						
	Bray I P (ppm)		30	5	20		

* Mehlich III Extractable